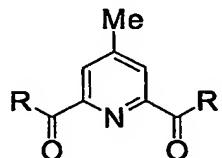


CLAIMS.

1. A method for preparing a supported catalyst component for the production of
5 hollow beads of polyethylene of controlled size and morphology that
comprises the step of:

a) providing a first component of general formula II



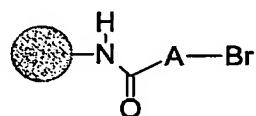
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(II)

wherein R is the same and is an alkyl having from 1 to 20 carbon
atoms;

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b) providing a porous functionalised bead of polystyrene of the general
formula III

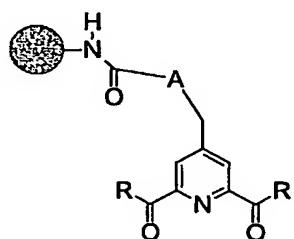


(III)

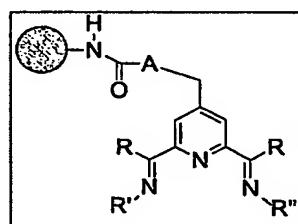
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wherein the flexible arm A is a substituted or unsubstituted alkyl
having from 2 to 18 carbon atoms;

c) creating a covalent bond between the component of step a) and the porous functionalised bead of step b) to produce a complex of formula IV



5 d) reacting the supported component of step c) with a first alkyl- or aryl-amine R' -NH₂ and with a second alkyl- or aryl-amine R'' -NH₂ wherein R' and R'' are the same or different, to prepare a bis-imine complex of general formula V

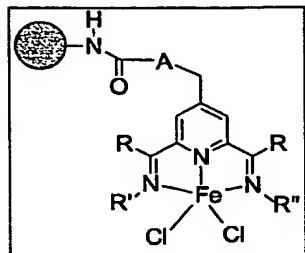


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(V)

e) reacting the bis-imine of step d) with ferric chloride FeCl₃ in a solvent to obtain the final catalyst component of general formula VI

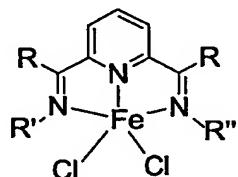
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(VI)

2. The method of claim 1 wherein flexible arm A contains from 3 to 6 carbon atoms.
- 5
3. The method of claim 1 wherein the R are the same and are alkyl groups having from 1 to 4 carbon atoms.
- 10
4. The method according to any one of claims 1 to 3 wherein R' and R'' in the alkyl- or aryl-amines are the same and are substituted or unsubstituted phenyls.
- 15
5. The method of claim 4 wherein the phenyls are substituted with isopropyl groups at positions 2 and 6.
6. The method of claim 4 wherein the phenyls are substituted with methyl groups at positions 2, 4 and 6.
- 20
7. A supported catalytic component obtainable by the method according to any one of claims 1 to 6.
8. A method for preparing hollow beads of polyethylene of controlled size and morphology that comprises the steps of:

a) providing a supported catalyst component as prepared in any one of claims 1 to 6, wherein the support is a porous functionalised bead of polystyrene and wherein the catalyst component is covalently bound to the support and is an iron-based complex of the general formula I



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wherein R, R' and R'' are as defined in any one of claims 1 to 6;

b) activating the supported catalyst component with a suitable activating agent;

10 c) feeding the ethylene monomer;

d) maintaining under polymerisation conditions;

e) retrieving hollow beads of polyethylene of controlled shape and size.

9. The method of claim 8 wherein the activating agent is methylaluminoxane.

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10. Hollow beads of polyethylene of controlled morphology and size obtainable by the method of claim 8 or claim 9.

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